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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,431	02/12/2004	Ju-Ho Lee	678-1352	4335

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THE FARRELL LAW FIRM, P.C.
333 EARLE OVINGTON BOULEVARD
SUITE 701
UNIONDALE, NY 11553

EXAMINER

HERRERA, DIEGO D

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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07/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/777,431

Applicant(s)

LEE ET AL.

Examiner

Diego Herrera

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, and 6-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 14, & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makela et al. (U.S. Patent Application Publication # 2003/0152097 A1), in view of Love et al. (U.S. Patent Application Publication # 2004/0116143 A1) and further in view of Johansson et al. (US 20020072370 A1).

Regarding claims 1 & 14, Makela et al. discloses and shows a method for transmitting packet data from a user equipment (UE) (Fig. 1, element 1 is a user equipment, Paragraph [0023], Makela teaches the use of a user 1 which is provided with wireless packet switched services) to Node Bs (Fig. 1, element 6; Paragraph [0023] & [0003], Makela teaches the use of Node Bs) in a code division multiple access (CDMA) (Paragraph [0002], Makela teaches that the invention is capable of performing Several wireless communications standards) mobile communication system, wherein a plurality of the Node Bs are adjacent to each other (Paragraph [0025], Makela teaches

Art Unit: 2617

that the invention has multiple RNS which may include either or both of the RNC and the base station depending on the implementation of such), and the method comprising the steps of:

- a. Receiving scheduling commands transmitted from the Node Bs (Paragraphs [0015]-[0017], Makela teaches the use of prioritizing the plurality of data units of the node and transmitting that information through means provided by communication system in place, hence scheduling commands from node B);
- b. Determining scheduling control information by combining weighted scheduling commands, which are determined considering weighting factors (Paragraphs [0015]-[0017] & [0029], Makela teaches assigning weight to the data then combining with the queues, i.e. scheduling commands, for controlling transfer data and scheduling control of information in the system);

However, Makela et al. does not specifically discloses weighted scheduling commands, nevertheless, Johansson et al. teaches the limitation of weighted scheduling commands (paragraph [0039], [0046]-[0049], Johansson et al. teaches the ability to track the place of mobile device and sync of the start of the mobile destination).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to specifically include weighted scheduling commands as taught by Johansson et al. for the purposes of having a faster synchronization for diversity handover (paragraph [0019]); and

- c. Wherein the weighting factors is determined individually for the scheduling commands (Paragraph [0029], Makela shows three data packets which are then given

Art Unit: 2617

weight and handled individually for scheduling commands meaning that the data packets are scheduled to be executed or carried out after weighted process is carried out).

Except the UE is located in the soft handover region occupied by the Node Bs and transmitting the packet data to the Node Bs according to the determined scheduling control information, nonetheless, Love et al. teaches on these limitations of the UE being located in the soft handover region occupied by the Node Bs and transmitting the packet data to the Node Bs according to the determined scheduling control information (Fig. 1 & 2, elements 214,110, 201-207,212, & 210; Paragraphs [0009]-[0012], Love shows and teaches the soft handover region where the user is traveling in a RNC with Nodes and it also explains the receiving of data to the nodes which in turn go to the scheduler control which determines scheduling commands for the data transmissions).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Makela et al. to specifically monitor the UE location in a soft handover region among node Bs and the transmission of packet data in node Bs according to the determined scheduling control information taught by Love et al. for the purpose of achieving a higher throughput and lower latency (Paragraph [0013] & [0018]).

Consider claims 2 & 16, and as applied to claims 1 & 14 above, the combination discloses and shows wherein each of the plurality of weighting factors for the Node Bs

Art Unit: 2617

being manage by an RNC (Paragraphs [0015]-[0017] & [0029], Makela teaches assigning weight to the data then combining with the queues, i.e. scheduling commands, for controlling transfer data and scheduling control of information in the system); except that they are determined considering a physical position and a cell size of each of the Node Bs, nevertheless, Johansson et al. teaches the limitation of weighted scheduling commands (paragraph [0039], [0046]-[0049], Johansson et al. teaches the ability to track the place of mobile device and sync of the start of the mobile destination).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to specifically include weighted scheduling commands as taught by Johansson et al. for the purposes of having a faster synchronization for diversity handover (paragraph [0019])

Claims 3, 15, & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makela et al. (U.S. Patent Application Publication #2003/0152097 A1), and love, and Johansson et al. and in view of applicant's admitted prior art.

Consider claims 3 & 17, and as applied to claims 2 & 16 above, the combination does not disclose wherein as the cell size decreases, a higher weighting factor is applied, however, the applicant's admitted prior art teaches the limitation as the cell size decreases, a higher weighting factor is applied (Fig. 1 & 2, page 4, lines 19-30; page 5, lines 1-6; admitted prior art teaches the scheduling of channels is due to the "highest

Art Unit: 2617

data rate is assigned to the UE 116 having the lowest uplink transmission power due to the shortest distance from the Node B 110...").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Makela et al. by including the limitation of the cell size decreases, a higher weighting factor is applied as taught by the applicant's admitted prior art for the purpose to "obtain highest performance while maintaining the same ROT and reducing inter-cell interference with other cell" (Page 4, lines 29- 30, and page 5, line 1).

Consider claim 15, and as applied to claim 14 above, Makela et al. does not disclose wherein the packet transmitter determines a transport format according to maximum data rate information included in the scheduling control information and a status of a data buffer storing the packet data, and transmits the packet data to the Node Bs according to the transport format, if it is determined from the scheduling control information that transmission of the packet data is possible, however, the applicant's admitted prior art does teach on the limitations of a packet transmitter determines transport format according to maximum data rate information included in the scheduling control information and a status of a data buffer storing the packet data and transmits the packet data to the Node Bs according to the transport format, if it is determined from the scheduling control information that transmission of the packet data is possible (Fig 4, elements 401-424; Fig 5, element 510; Page 3, lines: 22-29; Page 5, lines: 13-30; Page 6, lines: 1-9; as shown by the applicant's admitted prior art a transport format

Art Unit: 2617

according to maximum data rate information, fig. 5 element 510, included in the scheduling control information, fig. 4 elements 401-424, and a status of a data buffer storing the packet data; fig. 4 elements 406, 410-414, & 421-424; and teaches that the Node B estimates or determines if a transmission of the packet data is possible by the scheduling, Page 5 & 6).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Makela et al. to include a packet transmitter determining transport format according to the maximum data rate which is included in the scheduling control information and a status of a data buffer storing the packet data and transmission to the packet data to the Node Bs according to the transport format if it is determined from the scheduling control information that transmission of the packet data is possible as taught by the applicants admitted prior art for the purposes of supporting the data being transmitted on a channel so that the Node B can determine transmission likelihood (page 5 & 6).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diego Herrera whose telephone number is (571) 272-0907. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Diego Herrera
Patent Examiner



LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER